For example, in order for PageMart to build a national frequency reuse system, given a licensing scheme based on the 47 MSAs — the smallest of the Commission's service area alternatives — it would have to make a minimum of 470 acquisitions.[50] Even if the Commission adopted five geographic regions as proposed by commenters, PageMart would still have to undertake at least 50 aggregation transactions, which would be economically prohibitive.[51]

With an aggregation scheme, PCS providers will have to acquire the frequencies they need in each Commission-defined service area. With small service areas, PCS providers would have to undertake so many transactions to assemble an economically feasible narrowband PCS system that there would in effect be no real aggregation opportunities. The cost of aggregation would be prohibitive. National service areas will therefore make it easier to aggregate common frequencies in each service area. Without the opportunity to achieve the economies of scale associated with nationwide systems, PCS might never reach the consumer at all.

If the Commission does not allocate nationwide service areas, it must make a narrow exception to its regional allocation plan in order to support the provision of multi-regional service to consumers. In order for a consumer to send and receive wireless messages outside the home region, subscriber equipment must be tuned to the same frequency as the base station. Without at least some common frequencies nationwide, it would be technically and economically infeasible for narrowband PCS providers to offer services across regional boundaries. In order to provide a

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[50] This number is based on the multiplication of 47 MSAs times 10 channels, the number of forward messaging channels that PageMart would need for its PIMS system.

[51] Five geographic areas multiplied by 10 channels would yield 50 transactions.

technical basis for seamless, multi-regional service by multichannel reuse systems such as PageMart's PIMS, the Commission must allocate at least two 25 kHz channels on a nationwide basis to be used for system control requirements, including radiolocation and acknowledgement.[52] Making such a minimal nationwide allocation for system control functions would enable frequency reuse providers who were able to aggregate sufficient spectrum in each region to offer the benefits of a national service. These benefits include economies of scale, subscriber equipment that could be used in more than one region, and flexible service that would follow the mobile consumer wherever he or she went. Alternatively, providers in different regions could enter into cooperative arrangements — as in roaming arrangements in cellular telephony — which would also yield these same benefits. Without a national allocation of two channels, nationwide service of narrowband PCS by frequency reuse providers such as PageMart would be technically impracticable and economically unfeasible.

CONCLUSION

Ideally, narrowband PCS will be the first generation of advanced messaging services to bring data and other communications quickly and effectively to the wireless consumer. The Commission can best achieve this with PageMart's proposal for a variably sized spectrum allocation plan with spectrum use requirements. If the Commission rejects this approach, it should instead allocate

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[52] PageMart's PIMS system would require a forward channel for notification to the pager that a message is forthcoming. It would also require one common reverse channel for the personal unit to respond. Once the personal unit responded, the forward channel could then send another page to the personal unit telling it when and on which frequency data would be transmitted. The data channels, however, would not have to be common to each service area because the forward link could inform the pager in each region on which frequency data would be sent based on the data channels available in that particular region.

uniformly sized, 50 kHz blocks with asymmetrical return links and unlimited opportunities for spectrum aggregation. Finally, nationwide service areas are plainly critical to the implementation of narrowband PCS, particularly if the Commission opts for an aggregation scheme.

Respectfully submitted,

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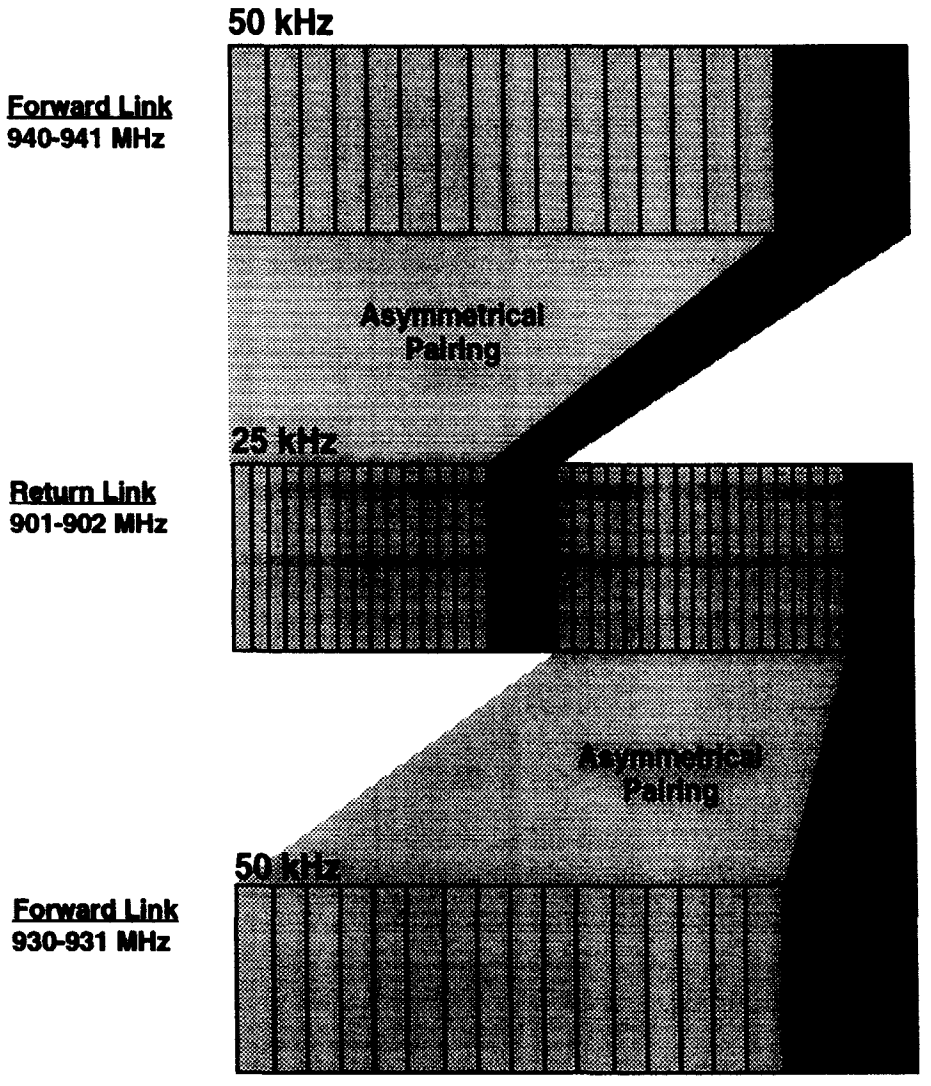
Dated: January 8, 1993

ATTACHMENT A

Attachment A

Alternative 900 MHz Band Plan Structure



Asymmetrical Pairing

- Single Channel: 50 kHz forward link and 25 kHz return link
- Multiple Channels with frequency reuse: 2-25 kHz control channels and 4 to 8 - 25 kHz data channels (i.e., 3 to 5 - 50 kHz channels).
- Separate loading requirements established for single channel systems to discourage spectrum warehousing.
- 4 to 8 nationwide asymmetrical channel pairs for minimizing transceiver equipment complexity and facilitating nationwide systems, particularly those requiring multiple channel frequency reuse systems (i.e., common control channels nationwide to reduce transceiver complexity)

PageMart

CERTIFICATE OF SERVICE

I, Jennifer L. Roberts, do hereby certify on this 8th day of January, 1993, that I have served a copy of the foregoing document to all parties of Gen. Docket 90-314 and ET Docket 92-100 via first class mail, postage prepaid, and in addition thereto, to the following parties via hand delivery.

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